WHAT IS CLAIMED IS:

Rule 1.129

1 26. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human melanocortin-4 receptor (MC-4R) agonist wherein the binding of the compound to the human MC-4R is characterized by an IC_{50} less than 30 nanomolar (nM) and the binding of the compound to the human MC-1R is characterized by an IC_{50} greater than 30 nM.

2 27. The method of Claim 26 wherein the binding of the compound to the human MC-1R is characterized by an IC_{50} greater than 100 nM.

3 28. The method of Claim 26 wherein the binding of the compound to the human MC-1R is characterized by an IC_{50} greater than 1000 nM.

4 29. The method of Claim 26 wherein the binding of the compound to the human MC-1R is characterized by an IC_{50} greater than 2100 nM.

5 30. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the binding of the compound to the human MC-4R is characterized by an IC_{50} less than 30 nM and the binding of the compound to the human MC-3R is characterized by an IC_{50} greater than 30 nM.

4 31. The method of Claim 30 wherein the binding of the compound to the human MC-3R is characterized by an IC_{50} greater than 100 nM.

7 32. The method of Claim 30 wherein the binding of the compound to the human MC-3R is characterized by an IC_{50} greater than 540 nM.

6 33. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the binding of the compound to the human MC-4R is characterized by an IC_{50} less than

30 nM and the binding of the compound to the human MC-5R is characterized by an IC_{50} greater than 30 nM.

9
34. The method of Claim 33 wherein the binding of the compound to the human MC-5R is characterized by an IC_{50} of greater than 100 nM.

10
35. The method of Claim 33 wherein the binding of the compound to the human MC-5R is characterized by an IC_{50} greater than 230 nM.

11
36. The method of Claim 26 wherein the compound is further characterized by binding to each of the human MC-2R, MC-3R, and MC-5R with an IC_{50} greater than 30 nM.

12
37. The method of Claim 27 wherein the compound is further characterized by binding to each of the human MC-2R, MC-3R, and MC-5R with an IC_{50} greater than 100 nM.

13
38. The method of Claim 28 wherein the compound is further characterized by binding to each of the human MC-2R and MC-3R with an IC_{50} greater than 540 nM and binding to the MC-5R with an IC_{50} greater than 230 nM.

14
39. The method of Claim 36 wherein the compound is further characterized by binding to any other human melanocortin receptor with an IC_{50} greater than 30 nM.

15
40. The method of Claim 37 wherein the compound is further characterized by binding to any other human melanocortin receptor with an IC_{50} greater than 100 nM.

16
41. The method of Claim 38 wherein the compound is further characterized by binding to any other human melanocortin receptor with an IC_{50} greater than 500 nM.

17
42. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically

effective amount of a compound which is a human MC-4R agonist wherein the compound binds to the human MC-4R with a binding affinity at least 10-fold higher than the compound binds to each of the human MC-1R, MC-2R, MC-3R, and MC-5R.

18 ~~43~~. The method of Claim 42 wherein the compound binds to the human MC-4R with a binding affinity at least 100-fold higher than the compound binds to each of the human MC-1R, MC-2R, MC-3R, and MC-5R.

19 ~~44~~. The method of Claim 42 wherein the compound binds to the human MC-4R with a binding affinity at least 1000-fold higher than the compound binds to each of the human MC-1R and MC-2R, at least 580-fold higher than the compound binds to the human MC-3R, and at least 250-fold higher than the compound binds to the human MC-5R.

20 ~~45~~. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the compound binds to the human MC-4R with a binding affinity at least 10-fold higher than the compound binds to any other human melanocortin receptor.

21 ~~46~~. The method of Claim 45 wherein the compound binds to the human MC-4R with a binding affinity at least 100-fold higher than the compound binds to any other human melanocortin receptor.

22 ~~47~~. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the functional activity at the MC-4R is characterized by an EC_{50} less than 10 nM and the functional activity at the MC-1R is characterized by an EC_{50} greater than 10 nM.

23 ~~48~~. The method of Claim 47 wherein the functional activity of the compound at the MC-1R is characterized by an EC_{50} greater than 100 nM.

~~49~~ 24. The method of Claim 47 wherein the functional activity of the compound at the MC-1R is characterized by an EC_{50} greater than 1200 nM.

~~50~~ 25. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the functional activity at the MC-4R is characterized by an EC_{50} less than 10 nM and the functional activity at the MC-3R is characterized by an EC_{50} greater than 10 nM.

~~51~~ 26. The method of Claim 50 wherein the functional activity of the compound at the MC-3R is characterized by an EC_{50} greater than 100 nM.

~~52~~ 27. The method of Claim 50 wherein the functional activity of the compound at the MC-3R is characterized by an EC_{50} greater than 1200 nM.

~~53~~ 28. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the functional activity at the MC-4R is characterized by an EC_{50} less than 10 nM and the functional activity at the MC-5R is characterized by an EC_{50} greater than 10 nM.

~~54~~ 29. The method of Claim 53 wherein the functional activity of the compound at the MC-5R is characterized by an EC_{50} greater than 100 nM.

~~55~~ 30. The method of Claim 53 wherein the functional activity of the compound at the MC-5R is characterized by an EC_{50} greater than 520 nM.

~~56~~ 31. The method of Claim 47 wherein the compound is further characterized by having a functional activity at each of the human MC-2R, MC-3R, and MC-5R with an EC_{50} greater than 10 nM.

~~57~~ 32. The method of Claim 48 wherein the compound is further characterized by having a functional activity at each of the human MC-2R, MC-3R, and MC-5R with an EC_{50} greater than 100 nM.

33 ~~38~~. The method of Claim 49 wherein the compound is further characterized by having a functional activity at the human MC-2R and MC-3R with an EC_{50} greater than 1200 nM and a functional activity at the human MC-5R with an EC_{50} greater than 520 nM.

34 ~~59~~. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the functional activity at the human MC-4R is characterized by an EC_{50} at least 10-fold lower than the functional activity at each of the human MC-1R, MC-2R, MC-3R, and MC-5R.

35 ~~60~~. The method of Claim 59 wherein the functional activity at the human MC-4R is characterized by an EC_{50} at least 100-fold lower than the functional activity at each of the human MC-1R, MC-2R, MC-3R, and MC-5R.

36 ~~61~~. A method for the oral treatment of sexual dysfunction in a male or female subject which comprises the oral administration to the subject in need thereof a therapeutically effective amount of a compound which is an agonist of the human MC-4R.

37 ~~62~~. The method of Claim 61 wherein the compound is a selective agonist of the human MC-4R.

38 ~~63~~. The method of Claim 61 wherein the sexual dysfunction is erectile dysfunction.

add a1